THE AIR LINE PILOT

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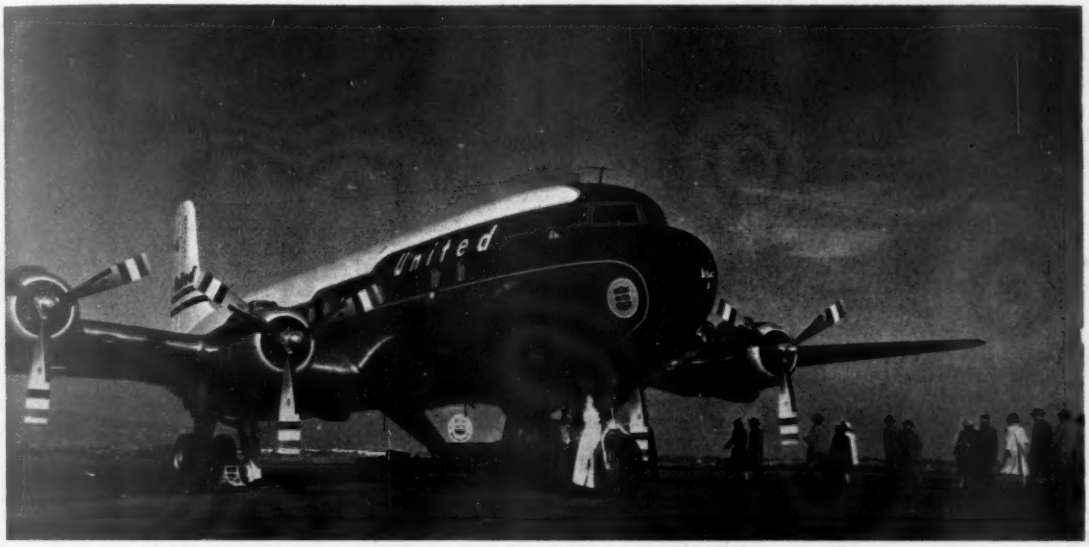

First Crash of DC-6B

A United Air Lines DC-6B crashed near Oakland, Calif., on August 24, 1951, killing the 50 passengers and crew aboard.

(Picture above is of a DC-6B type plane. Below are the scattered remains which hit a hilltop on its approach to the Oakland Airport.)

The crash occurred in the vicinity of Decoto, Calif., at approximately 4:28 a.m. The crew members were Captain Marion W. Heddon, ALPA Council 34, San Francisco, and Copilot George A. Jewett, also of Council 34, San Francisco; Flight Engineer Mario Durante, Air Carrier Flight Engineer Association, Council 11, San Francisco; Arthur Kessler, Company Observer, and Stewardesses Marilyn Murphy, ALSSA Council 55, San Francisco, and Laverne Scholes.

Assisting Carl Eck of Headquarters' Engineering and Air Safety Department in the investigation of the disaster were United Captains Albert Stainback, Don R. Moen, Frank Egbert and Clyde Parlette of Council 34, San Francisco, who arrived at the scene of the accident a few hours after it occurred. The pilots are still following through on the final phases of assembling the reports and the CAB hearing will not be held until the middle of September.

The plane crashed approximately 16 miles from the Oakland airport on the North East edge of the Newark fanmarker at an altitude of approximately 942 feet.

"SCHEDULE WITH SAFETY"

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Air Traffic Control---Tragedy in Making

(Staff Technical Analysis)

(Editor's Note: American Aviation Daily has granted us permission to publish in full the appended story which is so pertinent to everyone, especially the pilots, in air transportation.)

The record making performances and safety of operation by the air lines of the United States stand little chance of "weathering" the coming fall and winter. The delays, cancellations and even accidents which plagued air line operation in 1946-47 might well mark the 1951-52 winter season.

The remarkable achievements of the industry during the past five years in overcoming the operational problems posed by all-weather flying are right now being undermined in a manner and to a degree which makes a recovery this year seem difficult if not impossible.

This is the result of the wholesale military recall of airport and air traffic controllers who last month handled more than a million fixed postings, on the Federal Airways. It is not purely a civil problem. More than 300,000 of these fixed postings were military. Also, between 15-20 per cent of the landings and take-offs at all 175 tower-controlled civil airports are made by military airplanes. Already the military have had to cancel mass training flights as a direct result of Federal Airways personnel shortages.

Experience Level Dropping

In Region I including the high density New York-Boston-Washington area, 62 per cent of the controllers now directing traffic have had less than one year in their present grades. In this 62 per cent are 87 with less than three months in grade and 38 more with less than six months. Of the airport controllers in this region, 37 per cent have less than one year on their present jobs. Of this 140 airport controllers, 58 have less than three months' experience in grade.

Of 1,551 authorized air route traffic controllers, 150 have been recalled since June, 1950. Twenty-seven have been deferred and 32 more are scheduled for recall before December. Of those remaining, 209 are in the active reserves, 407 inactive reserves.

There are 1,846 authorized airport controller positions. Of these, 109 have been recalled to service, 12 are deferred and 17 are scheduled to go before the end of the year. One hundred and thirty-five of those remaining are in the active reserves and 337 in the inactive reserves. The situation is almost as bad with communications men and electronic technicians.

Reservists for Replacements

Replacements for these men have to come from the Civil Service Register, where veterans get preference. The result is that replacements have already raised the number of reservists in these positions to a point above the level when the recalls were initiated. Attempts to by-pass the Civil Service Register have been unsuccessful.

This country is building a billion dollar traffic control system scheduled for completion after 1960. Millions spent to date have been invested in equipment aimed at bringing immediate relief to the nation's congested airways. Automatic operation has been sacrificed to gain time. This is the transition system—for a period during which the related sciences required for automatic control are being developed.

The human being is the key to today's air traffic control. He is aided by a vast array of mechanical and electronic aids which require intelligent and informed monitoring and interpretation. When this is missing, the system breaks down.

(Continued on Page 14, Col. 3).

(This cartoon is reprinted by special permission of The Saturday Evening Post. Copyright 1951 by The Curtis Publishing Company.)

Pilot Follows Manual; CAA Prosecutes

ALPA Members Are Cautioned Against Similar Entrapment

By MAURICE H. SCHY
ALPA Legal Department

Pilots have evinced so much interest in the article which appeared in the last issue of The AIR LINE PILOT regarding the CAA's demand that an air line pilot pay $25 to "compromise" the penalty imposed on him for following his company manual that Headquarters feels justified in publishing further details, not only to illustrate how the CAA operates but also to help other pilots avoid similar entrapment.

The incident took place December 26, 1950. At 11:55 a Weather Specialist reported precipitation, ceiling 800 feet, with ¾ mile visibility. The flight in question landed at 12:08. At 12:10 another special reported precipitation, ceiling 1000 feet, visibility one mile.

Since the ILS ground installation was not operative, the pilot consulted his company manual which provided a "sliding scale" as follows:

"When a GCA precision approach is executed, a visibility reduction of ¼ mile below the minimum specified in the operations specifications-airport (Form 511-d) is authorized with each increase of 100 feet in ceiling above the minimum specified in the operations specifications-airport (Form 511-d) until a minimum visibility of ½ mile is reached."

The approach and landing were without incident.

CAA DEMANDS $25 "COMPROMISE SETTLEMENT"

Almost five months later, the pilot received a registered letter from the CAA charging him with violation of CAR 61.272 and soliciting payment of $25 in "compromise settlement." CAR 61.272, which the pilot was charged with violating, reads as follows:

"LETTING-DOWN-THROUGH-PROCEDURE. When instrument authority is authorized, standard instrument approach procedure shall be established by the operator for each radio range station used or to be used for letting-down-through, and approved by the Administrator and included in the air carrier operating certificate. The letting-down-through methods, procedures and minimums specified, shall be strictly adhered to."

The pilot consulted Headquarters, pointing out his approach and landing had been in strict accord with his company manual. Investigation by this office disclosed the Company had been fined $500 for including in its manual a GCA approach procedure which had not been approved by the CAA. However, the procedure did appear in the manual and there was no reason for the pilot to suspect its validity. Incidentally, the Form 511-d referred to in the manual is the CAA-approved chart from which the Master Range Approach Chart is compiled. The reference to Form 511-d would dispel any doubts the pilot might have about the validity of the provision.

On August 3, 1951, Headquarters wrote to the CAA, bringing this information to their attention and pointing out the further fact that enforcement proceedings should be remedial rather than punitive. On August 10, 1951, a reply was had from R. E. Elwell, General Counsel for the CAA, which read in part as follows:

"We are aware Capital Airlines' Operations Manual contained a provision with respect to GCA approaches. However, this provision merely sets forth procedure to be followed when a GCA approach is executed. It does not constitute any authority for the use of a GCA approach.

"Assuming that Capital Airlines may have been partially responsible for the incident, it is hardly conceivable that a pilot of Captain Currie's experience was not aware of the approved instrument approach procedures for his company.

"The fact that a civil penalty may be paid by Capital Airlines is not relevant to a consideration of Captain Currie's case. The enforcement action we propose is not punitive, but corrective in the interests of safety in air transportation. . . .

"It is requested that we be advised by August 17 if Captain Currie wishes to submit a compromise offer of $25 in settlement of his case."

It should be noted the Administrator does not indicate in what manner the pilot violated CAR 61.272 nor how the pilot could or should have known that the manual was in error. Actually, the pilot involved did not violate CAR 61.272 in any manner whatsoever. Yet, under the present enforcement procedures he is required either to admit a violation which he did not commit or spend thousands of dollars proving that he was not in violation.

HEADQUARTERS TO FIGHT "LEGAL EXTORTION" BY CAA

The facts outlined here are not significant in themselves. Their significance lies in the fact that the CAA is prosecuting a pilot for doing precisely what he was supposed to do—i.e. following his manual. Headquarters is presently defending the pilot and meetings are in progress in regard to the entire administrative set-up which allows such legal extortion under the guise of "promoting air safety."

HOSTS **Tommy Bartlett and his NBC "Welcome Travelers" were hosts recently to Girl Scout Troop 591, composed of blind girls from Chicago, who were flown to Door County, Wis., for a week's all-expense summer outing. Pictured here is 11-year-old Shirley Plum with her mother. Greeting them is Captain John Downing, Wisconsin-Central, Chairman, ALPA Council 89.**

Federal Court Files Suit Against Mid-West Pilot

(The following is another case in which the CAA has sought to entrap a pilot for alleged violations of CAA and CAR sections. Again ALPA's Legal Department has entered the case on behalf of the pilot.)

Apparently functioning under the premise that the pilot would compromise a CAA and CAR complaint by paying a fine, the Federal Court filed suit in Omaha, Neb., against Mathew H. Krebs, Mid-West Airlines, Council 104, Omaha, for alleged violation of CAA Section 610 (a) and CAR Sections 61.306 and 60.18(c) at the Ames, Ia., Municipal Airport.

Section 903 of the Civil Aeronautics Act provides that "(a) The trial of any offense under this chapter shall be in the district in which such offense is committed."

On August 14, 1951, John B. Lampe of Headquarters Legal Department filed a motion to dismiss the case because Omaha is not in the same jurisdictional district as Ames in which the alleged violation is said to have happened. It is believed that this fact was recognized by the CAA, which, however, believed the matter would be settled and sought to facilitate the settlement by filing the action in Omaha.

The violations charged allegedly occurred at the Ames, Ia., Municipal Airport on February 9, 1950, and are predicated on the alleged action of Krebs in failing to land his aircraft on the runway designated for that purpose through the medium of a set wind tee. It is the position of Krebs that the wind tee was not discernible prior to landing and that the runway on which he elected to land was the proper runway in view of wind conditions prevailing at the time, and therefore, that he has been improperly charged with the violations alleged.

Your New SOCIAL SECURITY

By HY E. PADWAY
Manager, Social Security Field Office
703 W. 66th St.
Chicago 21, Ill.

QUESTION: I work for more than one employer and make over the maximum of $3,000 per year (see last paragraph of answer) allowed by the Social Security Act. Each employer deducts Social Security Tax from my wages. Can I get any of that tax back?

ANSWER: Yes, you are entitled to a refund of all Social Security Tax you have paid on that part of your wages in excess of $3,000 per year. To get thus refund you must file a request for a refund of such tax with the Collector of Internal Revenue within two years of the year such over payment was made.

Beginning January 1, 1951, the maximum wage taxable was increased from $3,000 to $3,600 in a year.

Q: I fly to foreign countries and am frequently outside of the United States for months at a time. Do I get Social Security credit for wages I am paid while away from America.

A: You will get credit for your wages if you are an American citizen, and you work for an American employer. Citizens of Puerto Rico and the Virgin Islands are included as American citizens. American employers include an individual of the United States, Puerto Rico and the Virgin Islands having his true, fixed permanent home and principal place of business in the United States, Puerto Rico or Virgin Islands and who whenever he is absent has the intention of returning there.

Q: I have a wife and two children, ages 2 and 4. What benefits accrue to them should I die before reaching retirement age?

A: In every case where a widow or widower survives, a lump sum will be paid to him. If there are also minor children (under 18 and unmarried), the children will receive monthly benefits. The widow under 65 too will receive monthly benefits if she has the children in her care, such benefits will continue to be paid to each child until it reaches 18 or marries.

The widow will continue to receive monthly benefits until the youngest child reaches 18 or marries, or she remarries. When the widow reaches 65 and has not remarried in the meantime, she will be entitled to aged widow's benefits.

Q: When and where does a person apply for survivor's benefits?

A: If there is a widow or widower surviving, such person must make application within two years of the date of death. If there are also minor children, application should be made within six months of the month of death to prevent them from losing benefits. If there is neither widow or widower, the person paying the burial expenses must file for the lump sum within two years. If no children survive and the deceased was the chief support of his parents, they must file proof within 2 years, of their having been dependent upon deceased for the 12 month period before time of death, to be eligible for Social Security benefits when they reach 65.

Application must be made at your nearest Social Security Field Office, the address of which can be obtained from your Postmaster, or Telephone Directory.

INSTRUCTOR **Captain James Walters, Capital Airlines, Council 11, Washington, explains a few fine points of flying to Donald Lawson, who was one of 60 kindergarden-age children who took their first flight aboard two Capital planes as a phase of an educational experiment.**

State Laws Forbid Employers Requiring Physical Examinations At the Expense of Employees

By F. HAROLD BENNETT
ALPA Legal Department

States are constantly being added to the roster of those commonwealths which have been considered the more progressive insofar as labor legislation is concerned.

In the beginning, several states enacted legislation forbidding employers to require any employee or applicant for employment to pay the cost of a medical examination or the cost of furnishing any records of such examination which the employer may demand as a condition of employment.

In other words, if a company requires as a condition of employment that employees or prospective employees take a physical examination or furnish a medical certificate the employer must stand the expense entailed.

Sixteen states now have enacted such laws.

The Legal and Conciliation Department of the Air Line Pilots Association has, on numerous occasions, saved members the cost of medical examinations when the company has required such and insisted that the employees pay for them.

There is no way in which the Association can know how many such instances have taken place where the employee has paid the medical fee without making a complaint.

A reader of this article should not confuse medical examinations required by a company and medical examinations required by some Federal or state statute. We have particular reference to the medical examinations required of pilots by the CAR. There is no law that would require a company to pay for an examination that a certain class of employee is required to take under some Federal or state statute of regulation. The only medical examination which is required by these new laws to be paid for by the company is the medical examination which the company itself might require of its employees or prospective employees.

States in which this new law is now in force are: Arkansas, Louisiana, Minnesota, Oklahoma, California, Maine, New Hampshire, Utah, Illinois, Massachusetts, North Carolina, Vermont, Kentucky, Michigan, Ohio, Wisconsin.

Are you wearing a new ALPA emblem? The new pin, which is superior to the old in every way, is available at Headquarters for $1.20 each. It has a bronze base and is gold plated with the letters, ALPA, cut clear and distinct. "EMBLEMIZE" now!

ALPA Engineer Reports on CAR Talks

CAB Meet Draws Industry-Wide Representation

By THEO. G. LINNERT
ALPA Engineering and Air Safety Department

All branches of the air industry were represented at the recent CAB meetings for reviewing CAR regulations in Washington, D. C., from August 6 through 16, 1951. In addition to the government people in CAA and CAB, there were many well known industry representatives present—Convair's Ben O. Howard (ALPA inactive status member No. 46); Douglas Aircraft Engineers W. T. Dickinson and R. Brush; Lockheed Aircraft's Hall L. Hibbard and Clarence "Kelly" Johnson; S. A. Cook of Martin Aircraft. The cargo operators were represented by G. A. Busch of Slick Airways; ATA's A. W. Dallas with other well known air line engineers for ATA; AIA's I. C. Peterson; William D. Kent. newly elected president of Flight Engineers International Association with ALPA being represented by scheduled air line Captains William W. Moss, Jr., of Pan American Council 36, Transatlantic; Edwin S. Boyce of TWA Council 25, Chicago; Louis O. Meredith of American Council 39, Chicago and this writer.

The airworthiness review agenda was extensive and included subjects embracing all phases of the industry. Considered of particular interest to the air line pilots were the following subjects:

1. PERFORMANCE

The Air Line Pilots Association's representatives started the discussion on performance with Captain Bill Moss reading a paper titled, "ALPA Position on Temperature and Humidity Accountability." The ALPA paper gave examples of temperature and humidity effects on a modern transport airplane and can be summarized as follows: ALPA is firm in its opinion that actual full accountability for high temperatures and humidities should be applied to takeoff distance and takeoff flight path and obstacle clearance, by specifying separate correction factors: one for temperature, the other for humidity.

The Flight Engineers agree with ALPA that full temperature and humidity accountability, using ambient conditions, are needed for safe operation during adverse weather conditions.

The CAA favors one-half temperature humidity accountability, using a humidity value of 80 per cent relative humidity up to a temperature of 74° and a constant vapor pressure of .7" of mercury thereafter.

The ATA emphasized that it is not opposed to temperature and humidity accountability as such but that the regulations presently in effect are not arranged in such a form that the correct values can be assessed. The ATA claims it is not possible to tell how much of the present margins provide for temperature and humidity, but it is certain that at least part of them cover high humidity and temperature conditions.

Although no conclusions were reached during this discussion of increasing the safety of takeoffs during hot, humid conditions, it is generally felt that progress was made on the subject.

2. STALLING REGULATIONS OBSOLETE

The subject of stall characteristics was spearheaded by the Aircraft Industries Association. Discussion on this subject during the meeting revealed that stall characteristics as presently stipulated in CAR 04b were obsolete and that manufacturers in trying to comply were forced to go to extremes in testing, with the addition of spoilers near the leading edge of the center wing section area to meet these present CAR requirements. Adding the spoilers to the airplane, to make it possible for such aircraft to meet CAR requirements for "power-on" stalls, had an adverse effect on the airplane's handling characteristics during landing and takeoff. Such adverse effects were so pronounced that new regulations defining the "stall" were submitted by AIA. New stall charateristic requirements were also submitted and reviewed by others present at the conference. It is believed that a new Civil Air Regulation regarding stalling characteristic requirements will be promulgated in the near future.

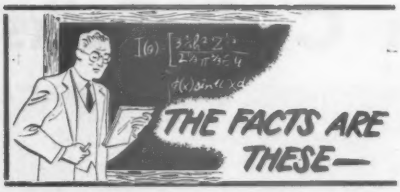
3. LANDING DISTANCE REGULATIONS

The Air Line Pilots Association's representatives read their paper titled, "ALPA Accident Analysis Study to Substantiate Need for Revised Landing Distance Regulation." This paper reviewed a six-year record of accidents which occurred during landings of transport airplanes. The ALPA paper pointed out that the present landing distance regulations are entirely unrealistic since they concern themselves with an airplane making an approach to an airport at a given speed over a predetermined obstacle clearance and contacting the ground on a hard, level, dry-surfaced runway. What the pilots desire and what air safety requires is a regulation that insures the air line pilot a positive means to stop his aircraft on the runway when

(Continued on Page 12, Col. 1)

PROBE UAL CRASH **This is ALPA's investigation group at the scene on Crystal mountain near Fort Collins, Col., of the crash of a United Air Lines DC-6 on June 30. Fifty persons were killed. No official report on the cause of the accident has yet been made. In the group, from left to right, are: H. L. Jacobson, UAL Council 33, Denver; A. W. Stainback, UAL Council 34, San Francisco; J. A. Lovett, G. H. Dorword and G. C. Kehmeier, all of Council 33; D. E. Tobie, Council 34, and Carl F. Eck of Headquarters Engineering and Air Safety Department.**

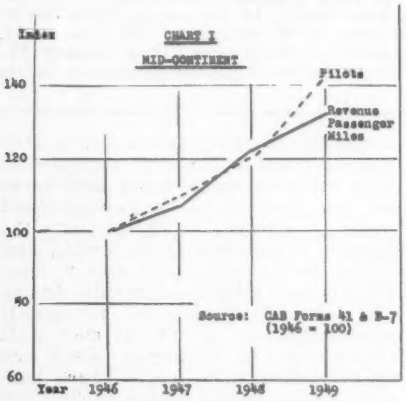
PROMOTED **Captain George E. Cramp, Council 15, Denver, has been named Assistant Chief Pilot of Continental Air Lines. Captain Cramp with Chief Pilot Jack F. Weiler will be responsible for pilot training, instrument check flights and route check flights.**



By RONALD L. OAKMAN
Research and Statistical Department, ALPA

Factors Influencing Air Line Travel

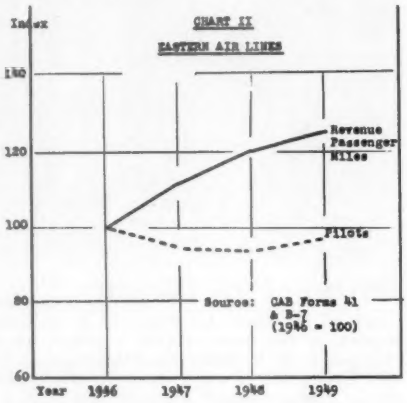
We have frequently heard the statement that if nothing but DC-3s were in use on the air lines today, 50 to 100 percent more pilots would of necessity be employed to fly the required number of revenue passenger miles. Those who oppose this line of reasoning immediately respond by stating that the number of passengers now flying would be far less if the service and speed of the air lines had not been improved by new equipment. They point out also that the fares would necessarily be higher if only DC-3s were used and this would discourage



air line travel. This line of argument has a logical ring but it is a bit like saying that Jack Dempsey in his prime could knock the tar out of Joe Louis in his prime. Neither statement can be proved and the argument could be endless.

Certain air lines, for example, Mid-Continent Air Lines, purchased no new equipment between 1946 and 1949 and the experience of such air lines might throw some light on the subject. Chart 1, herewith, illustrates graphically the relationship between revenue passenger miles flown and pilots employed on Mid-Continent between the years 1946 and 1949. It will be noted that as revenue passenger miles increased so did the number of pilots employed and the relationship between the two was very constant. In 1949, Mid-Continent flew 33 percent more revenue passenger miles than it had flown in the year 1946 and it employed 43 percent more pilots.

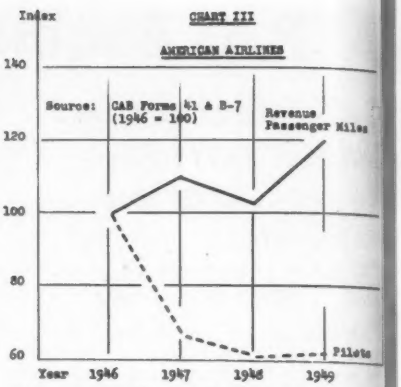
Chart II illustrates the relationship between pilots employed and revenue



passenger miles flown on Eastern Air Lines. Eastern in these years from 1946 to 1949 partook of modern equipment only moderately. For example, in 1949, the number of DC-3s in its fleet was almost the same as the number utilized in 1946. Comparing this chart to Chart I, it is apparent that the addition of new, more productive equipment was just sufficient to offset the need for increased pilot personnel. In 1949, Eastern flew 26 percent more revenue passenger miles and employed almost the same number of pilots as it had in 1946.

Chart III indicates the relationship between revenue passenger miles flown and pilots employed on American Airlines during these same years, and it will be noted, as has frequently been stated before, that the number of pilots employed had almost an inverse ratio to the number of revenue passenger miles flown. This chart illustrates vividly the effect of rapid modernization of equipment.

Now if American over these years enjoyed a 20 percent increase in revenue

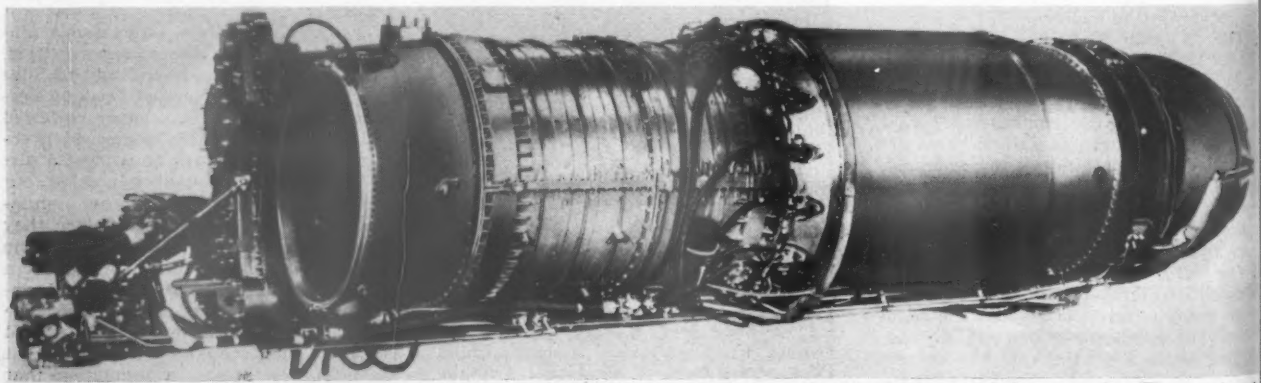


passenger miles and used nothing but DC-3 equipment, it would have needed 1483 pilots in 1949 instead of 726. It will also be noted that American, despite its complete conversion, enjoyed only a 20 percent increase in business, whereas Mid-Continent, utilizing the same type of equipment over all these years, increased its business by 33 percent.

This example is not meant to prove that the world would be better off without invention and progress; it is merely an interesting answer to the stock arguments so frequently heard indicating that the air line market is an elastic one and would not respond or enlarge if equipment and service were not drastically changed.

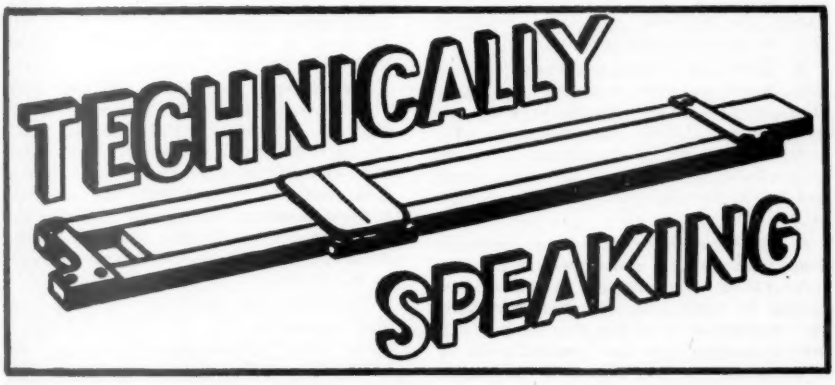
It is true that Mid-Continent enjoyed during this period a higher percentage of air mail pay than American, but the really significant difference between the two was the amount of profit enjoyed in relationship to capital investment and the word "profit" might conceivably be the answer to this pressure for new, larger and faster equipment on all air lines.

The relationship between business expansion and modernization is somewhat more complex than this article would imply, yet it must be admitted that in the instances illustrated, passenger miles did not increase in direct proportion to the addition of new equipment. Likewise, it can be shown that though overall passenger fares were higher in 1950 than in 1949, volume increased in that year. It could just be that, other factors such as safety, dependability, safety—all of which imply sound and equitable labor relations assuring employee stability—are equally important to expansion.



IN PRODUCTION **This is the Westinghouse J40-WE-6 turbojet engine which is reported to deliver more thrust than any other jet engine known to be in production. The electronically-controlled engine is slated for installation in the Navy's newest fighting craft. The engine is completely controlled by an electronic "magic box," which leaves the pilot free for combat. The engine is expected to materially increase the Air Force combat performance.**

IN PARIS **European Survey Group of Prototype Aircraft Advisory Committee at Orly Field in Paris after arrival from London with U. S. Embassy DC-3. Left to right are: Captain Bill Moss, PAA ALPA; Colonel Ted Enter, USAF; Ray Small, General Electric; Ken Gordon, Boeing; Harold Hoekstra, CAA, and Otto Kirchner, AAL.**



FOREIGN JET-POWERED TRANSPORT DEVELOPMENTS

(Editor's Note: This is the second article relating an air line pilot's views on the jet transports he flew and inspected as a member of the European survey group of the Prototype Aircraft Advisory Committee on June 8-27, 1951. The air line pilot member of this group is Captain William W. Moss, Jr., PAA Transatlantic Council 36, who has had 12 years with the carrier and four years with the Navy. Continued air line pilot activities in all new fields of development are being encouraged by the Air Line Pilots Association.)

By CAPTAIN WILLIAM W. MOSS, JR.

In the last issue I discussed, in my general observations, the Viscount 700, the Comet, and showed a comparison between the Vickers and the Apollo. My valuation of other craft follows.

GENERAL OBSERVATIONS ARMSTRONG-WHITWORTH

The Mamba-powered Apollo did not appear to be a very successful prototype and no production is planned.

In the last issue a comparison between the Viscount 700 and the Apollo was published.

Over a 500 mile stage distance, as computed by the SBAC "Standard method for the Estimation of Direct Operating Cost of Aircraft," the cost per airplane mile is estimated to be 87.1 cents and the cost per ton mile to be 22.4 cents.

A barometer of engine reliability is the Apollo's 263 hours of flying without an engine failure. Another interesting figure is their use of 300 hours as the scheduled time between engine overhauls in their cost assumptions.

Wing loading 45.6 lbs. / sq. ft.

ARMSTRONG - SIDDLEY MOTORS

They were of the opinion that no flight engineer would be necessary for a 4-engine turbo-prop airplane, as automatic controls are inherently required for engine operation. However, on the automatic controls their thinking diverges from that of U. S. Manufacturers in their use of mechanical or electro-magnetic rather than electronic controls. In regard to fuel systems, they believe one good system is preferable to the more complicated and troublesome duplicated system, however, they use hydraulic or mechnically operated valves, etc., which "fail safe."

A short test flight in a Mamba-powered DC-3 was useful mainly to demonstrate the simplicity of flight operation and instrumentation of this power plant. The rpm range was notable, being 15,000 for take-off, 14,500 in climb, and 12,100 in cruise. The engine feathered in approximately 8 seconds and relighted easily at 4,000 ft. It was reported that one of the engines was feathered at 25,000', OAT-50°C. and unfeathered and relighted easily an hour later at 20,000; OAT -40°C.

Although not enough operational experience has been obtained to say definitely as yet, Armstrong Siddley thought that the engine failure rate of turbo-props should be better than that of piston types. The fire protection problem of turbines is much less due in part to the small amount of lubricating oil required. However, the fire detection problem is acute due to the extremely high operating temperature.

BRISTOL

The Brabazon was an extremely impressive development, particularly in the spaciousness of interior accommodations. If it should ever be put into North Atlantic non-stop service it should, in spite of its slow speed of 260 mph for piston type and 340 for the turbo-prop version, be a useful yardstick as to the economy of operation, passenger appeal, and operational flexibility of the 300,-000 lb. airplane.

The Bristol 175, although the prototype is not yet flying, is well along in production for BOAC and appeared to be a well designed transport. Unfortunately, time did not permit a full evaluation of its estimated performance. However, the figure of 25,000 lb. payload, over an ultimate range of 2,500 miles, with a block speed of 348 knots gives some idea of how much an advance this development is over present types in operation. For a rough comparison the B-377 can carry approximately 24,-000 lbs. payload over a 2,450 mile range with a block speed of 238 knots.

Wing loading 63 lbs. / sq. ft.

Propeller problems should be much less with turbo-prop engine since engine excited blade vibrations are much less than with reciprocating types.

The Bristol "free turbine" design seems to offer advantages in flexibility of rpm range, in starting, and feathering.

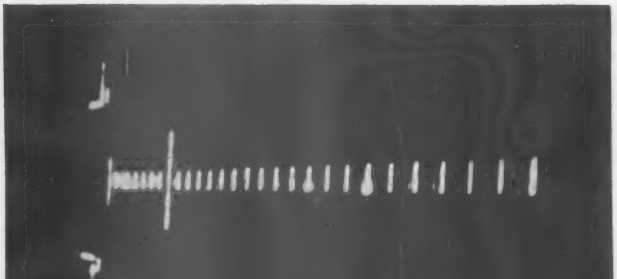
BRITISH EUROPEAN AIRWAYS

The most important subject discussed with BEA was that of simulated scheduled air line operational tests of new equipment. On the basis of the BEA operation last year of the prototype Viscount during which they flew 140 hours in 22 days, making three round trips per day London-Paris their feeling was that there was much to be gained by a prolonged test of this nature. Although it was felt desirable to run such tests with commercial equipment, the operation of a military plane would be of inestimable value in providing actual data for the development of operating techniques. The figure mentioned for the duration of such test was 1,000 hours, and it was felt that such an operation should be run by an air line and be completely divorced from military control.

One very significant point mentioned was that considerable deterioration of power was noted during the Viscount operation. Absolute figures were not given, and no other fix on this problem was obtained during the tour.

Following along this line of thought, BEA is now gaining considerable ex-

(Continued on Page 8, Col. 1)



ALPA SYSTEM **Night view of the ALPA approach light system which recently was placed in operation at the Newark, N. J., Airport. Captain Ernie Cutrell of AA, began experimenting with this system as early as 1945. The Newark installation is expected to give the system a rigorous test.**

GIANT AVRO **Britain's Avro Lincoln bomber (pictured here) is the type of plane that winged its way over the North Pole, July 24, in a non-stop 3,558 mile flight from Keflavik, Iceland, to Fairbanks, Alaska.**

Technically Speaking

(Continued from Page 7, Col. 3)

perience by their operation of 3 Dart-powered DC-3's on scheduled freight runs.

In regard to the approach control problem, BEA agrees with BOAC that radar ground control is their answer. In the London area, for instance, it is planned to hold the turbine aircraft in a high altitude stack separate from and above the reciprocating type stack. When its approach time is reached, the turbine aircraft will execute a rapid descent with ground control providing separation from other traffic. There is no thought as to the turbine powered plane having any approach priority nor, due to the poor point to point communications in Europe, is it planned to have the expected approach time allocated before the plane takes off.

In discussing holding reserves, it was apparent that the advantages to be gained by holding on 2 engines (with 4-engined planes) would not be used for calculations of normal reserves, but that it would be a factor considered ultimately in that its use would be available for semi-emergency conditions. In this regard, due to icing problems, such use would be impossible under icing conditions.

The final report of the Clear Air Gust Research Project was made available to the committee, and I think the significant points of it are as follows:

1. Possibilities of gusts up to 36 or 40 fps (US standard) may be extrapolated.

2. "Because they are met with little or no warning, clear air gusts will tend to be associated with the normal cruising speed of the aircraft, irrespective of the magnitude of the gusts. On the other hand, the basic gust envelope of the British Civil Airworthiness Requirements associates the largest gust velocity with a speed less than the design cruising speed. The implications of this difference on the design requirements for high flying aircraft should be examined."

3. "The frequency of occurence of clear air turbulence at high altitude is such as to make it a significant problem from the point of view of passenger comfort. Since the turbulence can be encountered with little or no warning, further research should be directed to establishing a reliable basis for forecasting turbulent areas."

4. "The turbulence occurs in isolated patches of which a representative size is 50 to 100 miles long by about 3,000 feet thick. It may occur over a wide range of altitude, particular topography or geographical position."

5. "Gusts of low and moderate intensity occur at approximately the same frequency at high altitude in clear air as they do at low and moderate altitudes in all flight conditions. On the other hand severe gusts probably occur much less frequently in clear air at high altitudes."

6. "Since severe gusts can occur in clear air at high altitudes the possible implications on design requirements should be examined. Further, the present conception of a 'flat topped' gust for design purposes is not realistic, as in practice a turbulent region is characterized by a rapid succession of positive and negative gusts."

7. "The available evidence suggests that clear air turbulence occurs in regions of high vertical wind gradient (which is equivalent to a high horizontal temperature gradient) and that the Richardson criterion for turbulence is applicable."

8. "More data is needed before a forecasting technique can be established. It has been found, however, that severe turbulence may be found in a 'jet stream' and that turbulence is frequently found near the tropopause."

9. "The results described in this report were obtained over Western Europe. They do not necessarily apply to other parts of the world."

FRANCE

The general impression gained from visits in Paris to the SGAC (Secretariate Genrale Aviation Civil), S.N.C.A.S.O. (Societe National Construction Aviation Sud Ouest), Breguet, and Air France was that the French have no practical turbine powered transports under active development and that their current developments are no competive threat to the U. S.

The only jet transport type is the Nene-powered S.O. 30, which is apparently only for research work into the problems of high altitude operation, etc.

The other interesting development at SNCASO was the use of a "Turbomecca" auxiliary jet beneath the fuselage of a DC-3 to increase its gross weight by 3,000 lbs. accompanied by a better single engine performance.

The Breguet 763 is mentioned here, although it is not a turbine powered plane, to illustrate the level of the French commercial transport development. It is a 50 metric ton double dock transport powered by four R-2800 engines, and is not pressurized. Performance figures quoted were for a 1300 mile range (ATA formula with 200 miles plus 45 minutes reserve), 225 mph block speed, and a 5500' runway required for take-off. Fourteen are in production, with 12 being allocated to Air France for second class passenger and freight use, probably between France and North Africa.

Air France seemed to feel that it was highly desirable to have a period of service test before the carriage of passengers. In the case of Breguet 763, this period is presently set at 800 hours on one aircraft by the S.G.A.C. and the cost will be borne by the government. Until 800 hours have been accumulated on one plane, the passenger carrying type certificate will not be issued.

(Another Installment in the September Issue).

Emergency Landing Of UAL DC-6

On August 26, 1951, Captain C. J. Stropes, Council 33, Denver; First Officer E. T. Osterling, and Flight Engineer C. E. Lightner, on a flight from Denver to Los Angeles with stops en route at Grand Junction and Las Vegas, experienced flight difficulty approximately 100 miles west of Grand Junction when the No. 1 prop became erratic necessitating manual synchronization.

Denver dispatch was notified of the possibility of having to feather and the route was changed in order to pass over more emergency fields and routes to Las Vegas. As a precautionary measure the No. 1 propeller was feathered due to the fact that the RPM control became difficult. Two minutes later the No. 4 engine backfired.

The warning light came on, and the first officer reported visible fire. The No. 4 engine was feathered and CO_2 released. The fire was successfully extinguished.

Hanksville was chosen for an emergency landing, since it was closer than Bryce Canyon and the field elevation was lower. Descent was made at approximately 500′ a minute to conserve altitude and the No. 2 and No. 3 engines remained in cruise position. At 8,000′ the No. 1 prop was unfeathered in case of go around. The prop immediately went to 3,600 RPM and was feathered again. Ground contact was made in first 1,000′ of runway. The No. 2 and No. 3 engines were reversed, brakes used, and the plane stopped with approximately 2,000′ of unused runway.

The skillful handling of the plane by Captain Stropes and his crew is attested by the fact that there was no excitement among the passengers during this emergency.

TRICKY, EH? **The vending machine has finally reached the air line ticket offices. In this picture is the machine which Capital Airlines installed at National Airport, Washington, D. C. The long-range plan is to install them at all bases. The new machine saves 25 seconds for each passenger in receiving his ticket. Idea for the vendor came from Robert P. Wright, Assistant Treasurer of the Company.**

Know Your HEADQUARTERS *Staff*

Let's get acquainted!

Men in the cockpit who keep Headquarters functioning should be familiar with every phase of Home Office activity. There are those who have opportunities to visit Headquarters and meet staff members, but they are few. Many in the field know the men from the Employment Agreement and Legal Departments but beyond that interoffice is just a group of people.

In this series of "get acquainted" profiles it is hoped to introduce to members the men and women of Headquarters who keep the wheels turning while the pilots keep the props spinning. This first profile will introduce Ronald L. Oakman, Director of the Statistical and Research Department.

The primary function of this department is to collect and analyze statistical and economic data pertaining to the air line piloting profession. This also embraces the entire air transport industry.

All CAB reports of an economic nature are kept on file, digested, and produced as arguments when the occasion arises. All ALPA agreements are analyzed, compared, and experimented with for improvement. Trade publications are gleaned for pertinent information, and visual arguments are prepared for various agreement negotiations.

In the past, much of the up-to-date factual material has been concentrated in Washington, but Oakman says that this obstacle is being eliminated, a fact which will give more prompt and proficient response to the pilots' needs.

The Statistical and Research Department also has gathered material and furnished information to colleagues in the allied fields of aviation industry served by ALPA's Education and Organization Department and a more complete service of this nature is now being instituted.

Oakman fell naturally into the statistical and research activities at ALPA. He received his degree in Economics from the University of Chicago in 1935, and in 1941 a Master's Degree in Business Administration, majoring in Business Statistics. During his undergraduate days at the U. of C. he took several labor economics courses under the present senator from Illinois, Paul H. Douglas, who has always had a somewhat romantic idea of the labor field.

During World War II he worked on production control of aircraft parts for the American Gear and Manufacturing Company where he dealt largely with the manufacture of landing gear bomb bay door mechanisms and wing flap controls designed for use on the B29.

Oakman has been with ALPA since July, 1949. He is married and he and his wife Dorothy have a daughter Wendy who is eleven years old. They reside in Downers Grove, Illinois.

LA Airways Grounds Helicopters During Investigation

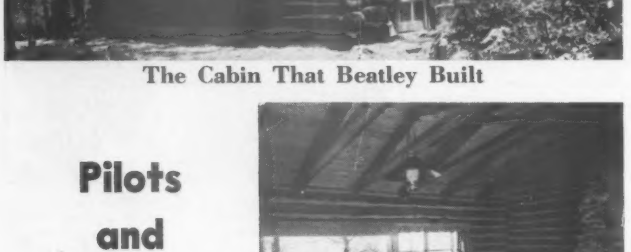
On August 27, 1951, Los Angeles Airways pilot Carl Crew, Council 105, was killed near Lynwood, Calif. One of the fittings on a rotor blade failed, causing one blade to fly off of the aircraft and unbalance the remaining blades so much that they were torn from the aircraft also. The cause of the failure is being investigated by Sikorsky Aircraft and the CAB.

Howard Higgins, Council 105, arrived at the scene of the accident shortly after it occurred and represented the pilots at the investigation. Carl Eck of Headquarters' Engineering and Air Safety Department conferred with the pilots of Los Angeles Airways at the close of the investigation concerning the precautions which should be taken before the grounded helicopters resume flying again.

SLEEP TIGHT **Two blond show gals from the Casino de Paris in Paris, France, demonstrate the use of the bunks in a new sleeper plane to fly between Paris and New York. It will be flown by TWA.**

The Cabin That Beatley Built

Pilots and Their Hobbies



The House That Snyder Built

The House That Pasley Built

The House That Bennett Built

'Birds' and the 'Nests' They Built

Recently the National Association of Real Estate Boards issued this warning:

"There have been tragic cases resulting from inexperienced but zealous persons attempting to construct their own homes or act as their own general contractors."

This sage group in the real estate field apparently did not entertain the fact that in the air line industry there are some of the Nation's most highly skilled men—the pilots. They handle construction tools with the same deftness as they do their planes.

This is a story of four pilots, and illustrations of their handiwork—their "spare" time achievements. Strange as it may seem, all these pilots live in Virginia and are with Capital Airlines. They are Charles E. Beatley, Master Chairman; W. P. "Pete" Snyder, Ralph L. Pasley and Richard J. Bennett, all members of ALPA Council 11.

* * *

Beatley chose the log cabin style of architecture for his domicile on Seminary Hill, Alexandria, Va. The family—Mrs. Beatley and a son and daughter—moved in early this year.

Captain Beatley started preliminary work on his cabin in the fall of 1947, with the actual construction job requiring about two years. Clearing the land, building a chestnut fence around the five-acre plot, and building a well house and garage required the balance of the time.

Charles cannot take full credit, however, for Mrs. Beatley gave moral support and occasionally helped peel the logs.

The cabin is 20 by 28 feet, with a 12 by 12-foot wing for the kitchen and bathroom.

* * *

Pasley built a six-room-and-bath brick home at Sleepy Hollow, near Seven Corners, Va. Ralph said he estimated he saved "quite a few thousand dollars" by doing most of the work.

"The brickwork alone would have cost me $2,500 on the basis of an estimate I obtained," he said. "Instead by laying the brick myself with the help of one laborer, I did the job for $600."

It required three years to complete the house.

* * *

"Pete" Snyder constructed a two-bedroom house of redwood frame in the modern style. Unfortunately, however, he found that by the time the job was completed the family had outgrown it, so sell it he did.

Speaking of pilots who build their own homes, Mrs. Snyder wrote:

"None of these men had any previous building experience, but I defy you to find anything amateurish about their work. I don't know whether to attribute it to the fact that most pilots are, by nature, perfectionists or to the probability that pioneer blood still runs rampant in American veins."

"Pete" has bought a farm and is going to build another house.

* * *

Bennett built his home on a 30-acre plot near Herndon, Va. He has been working on the construction job for two years and figures to have it completed in another six months.

It will be noted from the illustrations that all the homes have been erected in rustic surroundings.

(All pictures through courtesy of the Washington Evening Star.)

Public Seeks Drastic Anti-Noise Action

Residents Near 4 Airports Hold Protest Meetings

Residents contiguous to National Airport in Washington, D. C., LaGuardia and Idlewild in New York, and Newark Airport in New Jersey, are again clamoring for local and state laws controlling traffic patterns under the mistaken idea that such laws will eliminate noise. Drastic action has been threatened by officials and civic groups of the area serviced by these four airports.

At recent protest meetings representatives of ALPA have been in attendance to explain the complexity of the air traffic problem and to pledge the co-operation of the pilots in minimizing noise providing it is done without jeopardizing safety.

Captain Robert L. Tuxbury, UAL New York, Council 52, and Captain Arthur F. Foster, TWA New York, Council 2 are working closely on the current noise pattern cases, both having attended the New Jersey conferences at which it was suggested that a partial solution of the Newark problem would be for the pilots to make left turns as soon as possible after takeoffs on runways 28 and 24.

As a result of these suggestions a letter was dispatched by Carl F. Eck of Headquarters Engineering and Safety Department to all ALPA members in the Newark and New York areas. Eck called attention to the notice issued August 15, 1950, which read in part:

"All aircraft shall be operated to follow a standard lefthand rectangular traffic pattern which for each runway is contained within a 5-mile radius of the center of the airport.

"Landing aircraft shall be operated so as to join the traffic pattern at or above an altitude of 1200 feet, mean sea level, weather permitting."

"In an honest effort to do as we promised," said Eck's memorandum of July 27, 1951, "and to improve conditions for all concerned you are hereby requested whenever safely possible to make left turns after takeoff from these runways. In the case of runway 28, a left turn should be made as soon as safely possible after takeoff so as to avoid the Hillside section, climb to 1200 feet then proceed on course.

"In the case of runway 24 a left turn is recommended over the meadows whenever safely possible, so as to avoid the residential area that is in line with the runway, after this turn and initial climb to 1200, proceed on course.

"The purpose of this letter is to caution all of our members living in Newark or New York or the surrounding area, or flying from or to these locations, to do nothing that would again accentuate this trouble or arouse the local people. . . . In other words, without jeopardizing safety, let's all endeavor to keep the noise level to as low a degree as possible."

The left-turn traffic pattern became effective at Newark on July 27. The New York Times said that comments by residents ranged to "some improvement" to an enthusiastic "difference between day and night."

ALPA has consistently fought against local and state control of the airlanes, holding that such control is the prerogative of the Federal Government. Past experience has shown that where local laws have been on the statute books the pilot has often been made the scapegoat. An example is the case of Captain George R. Neuhauser of Northeast Airlines.

Captain Neuhauser was alleged to have violated a city ordinance of New York City which made it a criminal offense to:

"Navigate an aircraft within the limits of the city in any manner limited by provision of or contrary to the rules and regulations of the Civil Aeromautics Adminstration or the Civil Aeronautics Board." He was served a summons on July 23, 1949, upon landing a DC-3 at LaGuardia Field: He was charged with not conforming with the city's anti-noise traffic pattern and ordered to appear in Magistrate's Court.

ALPA's Legal Department immediately rallied to the cause. What seemed like a simple defense at first proved to be a nine months' battle before the Captain was acquitted in the Special Sessions Court of New York City at a trial held March 9 and 13, 1950.

The Neuhuser case became a famous legal one for it involved the entire concept of federal rights vs. the rights of states and municipalities. The action of New York City threatened to deprive the Federal Government of its authority to regulate interstate air transportation.

This obvisously was a test case, but it proved to be one in which the Association had to carry the burden.

The New York City anti-noise pattern was discontinued on August 15, 1950. Early this year, however, Civic associations in Queens, in which LaGuardia and Idlewild are located, began demanding that an anti-noise pattern be incorporated in the city's statutes. Fanning the flames of the fight in Queens was the Long Island Daily Press.

A reporter on the New York Journal-American wrote this about the Queens case:

"Inhabitants of Queens who live as

(Continued on Page 14, Col. 1)

Gill "Hands It Out"

A sidelight on the meeting of local and state officials and civic groups in Elizabeth, N. J., in protest against the noise made by plane engines in taking off and approaching the Newark Airport, was a statement by Captain Johnny Gill of Eastern Air Lines. When one of the protesters stated that it was a health hazard, Captain Gill commened:

"If you are really worried about your health you should be concerned about the smoke and chemicals you are breathing in the air rather than the noise nuisance."

Since then there has been an intensive anti-smoke campaign in Newark and New York. According to a reliable source, some 400 firms have been warned or fined.

REVIEW MARTIN 404 **A selected group of Eastern Air Lines and TWA pilots and a Headquarters representative are slated to spend a week at the Martin Airplane factory to review the Martin 404 from the early assembly stages to final assembly and flight demonstration. A detailed program will be followed during the week. At this writing the Martin 404 is well along the CAA certification tests, a fact which will allow the pilots to fly the plane using approved or preliminarily approved procedures from the flight manual. Pictured here is the 404 as it appeared during its first flight on July 27, from the Glenn L. Martin Company's airport near Baltimore. The 404 is a high-speed 40-passenger transport with pressurized cabin and cockpit. On order are 41 for TWA, 60 for EAL and 2 for the U. S. Coast Guard.**

ALPA Engineer Reports on CAR Conferences

(Continued from Page 5, Col. 3)

condition of little or no braking action is evident or possible. The necessity for this can be clearly seen by reviewing the landing accident record during the past six years. Nearly all of the accidents which occurred during landing, occurred when runway surfaces were wet or icy. The air line pilots say that "unless a realistic determination is provided as to what constitutes safe landing distance runway lengths, they will continually be exposed to landing accidents where runway length is insufficient to bring the plane to a safe stop." The industry group present, upon hearing the Air Line Pilots Association's viewpoints on this subject, agreed in general that modifications to the present landing distance regulations should be studied. Before the meeting adjourned, there was general agreement to set up a joint Industry, CAA, CAB, ALPA Conference to investigate this landing distance problem thoroughly and to recommend as soon as possible adequate landing distance regulations to materially reduce the "over-run" type accident occurring during wet or icy runway conditions.

4. NEW CARGO REGULATIONS

For some time, the industry has been studying a proposal for a set of rules covering cargo airplane design and operation. At this conference, it was evident that all concerned desired to reach some agreement. The AIA pointed out that in order to encourage the development of cargo service, a proposal permitting a lower level of safety in the design and operation of a cargo plane should be permitted. The ATA did not have any specific proposal on the cargo performance design and operation at the time of the conference; however, they were very much interested in all proposals and expressed the hope that the problem could be resolved. ALPA's representatives were definitely opposed to any distinction of safety between cargo and passenger operations. ALPA feels that a cargo plane accident caused by lack of performance, involves the loss of the pilots' lives and possible lives of others on the ground, in addition to the loss of equipment, damage to property, and the usual unfortunate publicity which follows any type of airplane crash. With regard to the economy problem, ALPA feels that the design of cargo planes specifically for the purpose of hauling cargo only, would result in a more economical airplane.

5. ENGINE POWER DETERMINATION

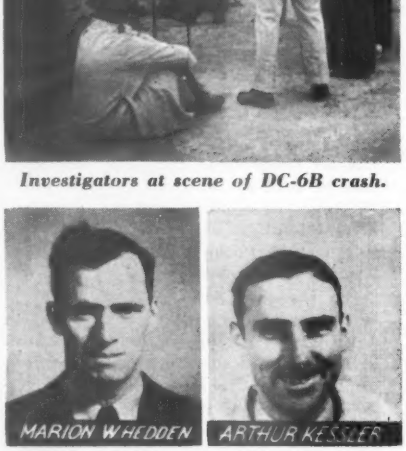
Means for accurately determing the engine power available prior to takeoff is extremely important to the safety of each takeoff. This subject was discussed during the conference and ALPA strongly recommended that at the earliest possible time, instrumentation be included in a transport plane which would enable the pilot to know the engine power available prior to each takeoff. The CAA is in accord with ALPA's views and stated that to insure that the aircraft's performance in actual air line operation is up to the certificated performance, it would be necessary to have accurate knowledge of the power available. If the certificated power is not available, weight must be reduced. To determine if the power is available, instruments must be provided and the accuracy of these instruments must be maintained.

In addition to the five items previously mentioned and considered to be the highlights of the meeting from an ALPA point of view, there were discussed during the conference numerous other items relating to detailed design for aircraft structures, fire prevention, fire extinguishing and detection, transport aircraft instrumentation, etc.

The conference was the first full-fledged Annual Airworthiness Review and considered by all to be very worthwhile. It enabled all interested parties to discuss with the Federal agencies proposed regulations or proposed revisions to regulations which had accumulated over a period of time. The meeting is not for the purpose of making on the spot regulations but rather to gather information to ascertain the need for new or revised regulations.

All the information presented and the minutes taken during the nine-day meeting are to be reviewed by the CAB, and where substantiated, new regulations or revised regulations will be adopted. Prior to the adoption of any proposed new or revised regulations, they will be distributed to the industry in their usual Draft Release form so that comment and criticism may be made prior to the final adoption of any regulations.

Investigators at scene of DC-6B crash.



Die in Crash

Crew of United Air Lines DC-6B which crashed August 24 near Oakland, Calif., killing all 50 passengers and crew members. The stewardesses are, left to right, Marilyn Murphy and LaVerne Sholes. (Picture of crash on page 1.) Captain Heddon was Pilot, Jewett, Co-pilot, Mario Durante, Flight Engineer, and Arthur Kessler, Company Observer.

AA Korea Airlift Pact to Give Pilots $250,000 Arrearage

Two weeks after negotiations had been successfully concluded with American Airlines for an interchange between American, National, Delta and Continental, a final agreement was reached on August 24 with the company on compensation, rules and working conditions for the AA pilots who have been flying the Korean Airlift Operation since July 20, 1950. The interchange agreement was reached on August 10.

The AA Airlift agreement follows the general pattern for first pilots and co-pilots of the supplemental contracts with Eastern, United, Capital and Western.

Due to the fact that American's basic pilot agreement has not been settled, a provision to permit the pilots to assert a claim for additional compensation should the present book rates be adjusted higher than those paid on July 20, 1950, was written into the Airlift agreement.

All provisions of the Letter of Agreement are retroactive to July 20, 1950, and represents an amount totaling about $250,000.

Representing the pilots at the Airlift negotiations were, Walter M. Cary and J. R. Lyons of Council 22, New York; Frederic J. Schwartz and Sheldon E. Pangburn of Council 6, Boston. Headquarters representative was Karl J. Ulrich. Company officials at this meeting were, E. G. Hamilton; G. K. Griffin, Vice President - Personnel; J. G. Deater, Personnel Director and A. DiPasquale, Director - Labor Relations.

Flight Time Limit Applies to Check Pilots

CAB Safety Agent Makes Ruling on CAR Section 61.117

Flight time limitations prescribed in CAR 61.117 are applicable to "all pilots in scheduled air transportation," including company check pilots, according to a ruling made by James F. Rudolph, Aviation Safety Agent, Civil Aeronautics Board.

Section 61.117 permits a pilot to be scheduled 8 hours or less in any 24 consecutive hours without rest. If the pilot is scheduled to fly in excess of 8 hours in 24, he shall be given an intervening rest period at or before the termination of 8 scheduled hours of flight duty. This rest period shall equal at least twice the number of hours flown since the last preceding rest period and in no case shall such rest period be less than 8 hours.

The section also provided that when a pilot has flown in scheduled service in excess of 8 hours during any 24 consecutive hours he shall receive 24 hours of rest before being assigned to any duty with the carrier. Time spent in deadhead transportation to duty assignment shall not be considered a part of such rest period.

Further, the regulation specifies that a pilot shall not fly in execess of 30 hours during any 7 consecutive days and that relief from all duty for not less than 24 consecutive hours shall be provided for and given to such pilot at least once during any consecutive days.

Rudolph's ruling was in response to the Regional Attorney's question of whether time aloft as a check pilot must be included in determining compliance with the flight time limitations imposed by Section 61.117. In ruling the section applied to pilots generally, Rudolph wrote:

"First of all, the check pilot is receiving compensation for his time aloft. Secondly, even though he may not physically control the aircraft on a check flight, he is nevertheless responsible to a considerable degree for the operations of the aircraft.

"On the usual check flight, the company check pilot acts as the pilot in command. He must act in this capacity if he is to perform adequately his function as a check pilot. Without the power of control, he would be unable to order repetitive actions or issue other directions which must be considered mandatory if he is to obtain the evidence necessary to his determination regarding pilot proficiency.

"We therefore conclude that flight time acquired as a company check pilot must be included in computing total flight time under CAR 61.117. Our conclusion is applicable regardless of the nature of the check flight. If the flight is not in 'scheduled air transportation service,' it should be considered 'other commercial flying' and included under CAR 61.117(g).

"In reaching this conclusion, we have reviewed the exemption contained in CAR 61.117(g), making the flight time limitations of the section inapplicable to time acquired by pilots in qualifying on routes. This specific exemption is administratively justifiable in view of the relatively small amount of flight time acquired by regular pilots in this type of flight. The absence of a similar exeception for check pilots confirms the opinion contained herein. Further, the much larger amount of flight time acquired by check pilots in this type of check flights, as well as other types, precludes the existence of any intent in the adoption of the regulation that the exemption of subsection (f) should be applied to the flight time of pilots who serve also as check pilots."

ALPA FCU Financial and Statistical Report of July 31, 1951

BALANCE SHEET

Assets

	July 1951
Loans (565)	$280,818.53
Cash	29,533.43
U. S. Bonds	101,726.57
Furniture and Fixtures	2,456.73
Total	$414,535.26

Liabilities

Shares	$396,071.74
Reserve for Bad Loans	4,184.27
Undivided Profits	512.75
Profit	13,766.50
Total	$414,535.26

STATEMENT OF INCOME & EXPENSE (Year to Date 1951)

Income

Interest on Loans	$18,684.66
Investment Income	1,714.15
Other Income	7.06
Total	$20,405.87

Expenses

Office Supplies	$ 665.05
Educational Expense	39.14
Loan Insurance	1,140.88
ALPA Reimbursement	3,500.00
Depreciation	362.35
Miscellaneous	931.95
Total	$ 6,639.37
Net Profit	$13,766.50

Statistical Information

	July 1951
Number of Members	1,818
Number of Potential Members	9,307
Loans Made Since Organization (Number)	1,310
Loans Made Since Organization (Amount)	$788,068.96

Join ALPA FCU NOW

The goal—"Every ALPA member an ALPA FCU member."

FLYING FATHER OF YEAR

—that's Captain Roger Crabtree, American Airlines, Council 39, Chicago. He was selected by the Men's and Boys' Wear Club of the Merchandise Mart, Chicago. Here he receives gifts from his sons to mark the honor bestowed upon him. The sons, from top down, are: Tommy, 9, Gary, 13, and Denny, 11. Mel Wittenberg, President of the club, presents the Captain with an entire wardrobe. When he's not flying you will see him sporting new suit, hat, shirts, ties, socks, underwear (maybe you won't see), handkerchiefs and other items.

CAB Holds Merger Of SA-WCA Would Be Inconsistent

Civil Aeronautics Board, in denying the joint application of Southwest Airways and West Coast Airlines to merge, contended that it would be inconsistent with its policy of confining local carriers to local areas.

The underlying reason for the Board's disapproval of the merger lies principally in the fact that such a merger would create a third carrier extending virtually along the entire Pacific Coast and would thus provide competition to certain trunk lines.

The CAB, however, offered an alternative, suggesting to both carriers that there are "other areas available to the applicants for exploring the possibility of mergers in contiguous trade areas."

"For example," the ruling reads, "West Coast and Empire present interesting possibilities for merger. Similarly, Southwest and Bonanza may find it to their advantage to consider a merger and it might well be that such mergers would result in equivalent if not greater savings than appear possible in the proposed West Coast-Southwest Merger."

SKILLFUL PILOTING When this Eastern Air Lines Constellation encountered severe vibration and fluttering, Captain J. B. Armstrong, Council 18, Miami, made a skillful handling of this landing, and therefore was commended and exonerated of all blame. None of the 53 persons aboard were injured. The vibration, it was shown, was caused by the opening of a fairly large hydraulic tank access door.

Air Traffic Control ---Tragedy In the Making

(Continued from Page 2, Col. 3)

And the system has broken down. On three separate occasions in the past few months, months during which weather offers no real problems, the system has bogged down hopelessly in critical areas. In the first case, typical of all three instances, some 20 scheduled operations by the Strategic Air Command had to be cancelled. At the same time, one air line had 51 flights delayed over five hours and another 17 flights delayed more than nine hours.

Both civil and military traffic on the Airways is increasing and the defense planners are scheduling even greater responsibilities for this group in the event of further mobilization. No solution is in sight.

Residents Near Airports Seeking Anti-Noise Action

(Continued from Page 11, Col. 3)

neighbors to LaGuardia and Idlewild Fields might as well resign themselves to the racket of airliners overhead.

"Short of striking New York City from the nation's airline map—and nobody in his right mind proposes that—there's no way humanly possible today to bring about 'noiseless' operation.

"Civic clubs and associations of one sort or another can pass resolutions from now to Christmas and issue outraged cries so hot they ought to be printed on asbestos, but the fact remains:

"You just can't have big transport planes landing and taking off without the roar and whine of their engines and propellers."

In the current National Airport situation representatives from Arlington and Alexandria met August 8 with representatives of the air lines, the Air Transport Association, the Air Force, ALPA and the Navy and Military Transport Service.

The conference agreed to request pilots to use maximum safe altitudes instead of minimum in approaching the congested airport. At the suggestion of Charles F. Horne, Administrator of the Civil Aeronautics Administration, a committee will be named shortly to study the problem.

The 11th biennial convention of ALPA went on record officially in opposition to state or municipal regulation of air traffic. It resolved that—

"The Air Line Pilots Association is opposed to the regulations of interstate and foreign air commerce by municipal or state governments and it is firm in its conviction that such regulation should be exercised by a single agency and that agency should be the federal government, and

"Be it further resolved that the Air Line Pilots Association condemns the practice of designing airport traffic patterns with any other objective than that of insuring the safe and expeditious flow of air traffic into and out of a given port."

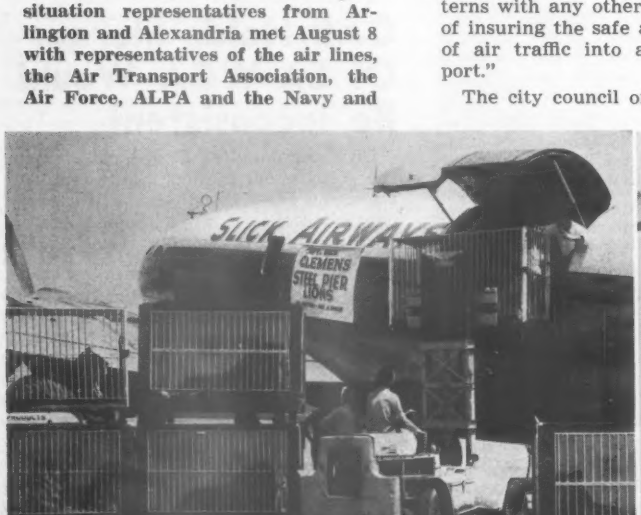
The city council of Alexandria, Va., is expected to vote on September 11 on an ordinance, the provisions of which would grant the city authority to prosecute pilots who are alleged to have violated any Civil Air Regulation. This is the type of statute which ALPA has fought constantly.

The proposed ordinance is the outcome of the protest meetings mentioned previously in this story.

This action is similar to that used in New York wherein the entire CAR was incorporated into the municipal ordinance by reference.

At the various meetings held in Alexandria, ALPA has been represented by Larry Cates, Washington representative; John Van Patten, Capital, Council 11; A. F. (Red) Foster, TWA, Council 2, New York, and other pilots based in Washington, D. C.

Pilots are urged to advise Headquarters if there are similar outbreaks in the anti-noise drives in the vicinities of their bases or the airports into which they fly.



TIMES HAVE CHANGED Not too many years ago an air cargo like that shown at left would have been thought impossible, and at right is a sketch of things to come. The lions are being loaded onto a Slick Airways craft for shipment from Philadelphia to Oklahoma City to appear in a polio circus being given by the Veterans of Foreign Wars. The double-deck helicopter has been designed by Howard Hughes to seat 70 passengers. Baggage stowage would be handled by revolving lift, visible in the after cutaway in drawing. It would have a cruising speed of more than 100 mph and a range of 200 miles.

Lawmaker and Pilot, Too

Clair Engle, located in Washington, D. C., keeps in personal contact with his constituents in California.

How?

Clair Engle not only is Congressman from the 2nd district in California, but he also is a pilot who flies his own plane

Clair Engle

while campaigning and in making regular trips to "get the feel" of the people back home.

Pilot (Congressman) Engle was the first private flier over U. S. Skyway Number One after the route was initiated.

Pilot Engle's district 2 is on the eastern border of California and covers about one-third of the state's area. The district extends lengthwise about 600 miles and encompasses the lowest (Death Valley) and the highest points in the United States.

During his campaigning, Congressman Engle covers his vast district six to seven times, whereas his opponents, traveling by surface over a treacherous roadway, can make the coverage only once or twice.

Congressman (Pilot) Engle soloed in 1938 at Red Bluff, Cal. He was first elected to the 78th Congress in August, 1943, and is now assistant Democratic whip in the House of Representatives and is on the Interiors and Insular Affairs committee. At present, he is serving on the House Select committee to conduct a study and investigation of the education and GI Training program of World War II veterans (including GI flying schools).

Medical License Restored to Pilot

Edward A. Reed, who was grounded by his company in January, 1951, for failure to pass the company's medical examination and subsequently was denied a medical certificate, has been granted, through ALPA's persistent efforts, a first class medical license without waivers. He recently was re-examined by the Medical Division of the CAA.

A. F. Foster, ALPA's New York Regional Vice President, pushed the case from its inception.

Seeks Honor for Rickenbacker

Congressman John M. Vorys from Ohio, has an idea for a name for the Air Force Base at Lockbourne, near Columbus, O. He would honor the ace of aces in World War I. In a speech from the floor of the House of Representatives, he suggested that no more appropriate name could be given the huge installation than Rickenbacker Air Force Base.

"The history of aviation, and America's hero fliers," said the Congressman, "is kept before the public by air force fields all over the Nation—Kelly, Chapman, Randolph, Barksdale, Mitchell, Wright-Patterson and scores of others. Rickenbacker would be a wise and noble addition to this list."

Of course, pilots don't have to be told that the Congressman is referring to Captain Eddie Rickenbacker, President of Eastern Air Lines.

* * *

Grounded by Marriage

Like the postman who went for a walk on his day off, these former Trans World Airlines hostesses, grounded by marriage, took their offspring to the airport in Kansas City to give them firsthand knowledge of the "high flying" work Mon used to do. The group also appeared in "Heart of America," a TV newsreel.

Children in the picture, left to right, are: Kathleen Dowd, wearing a junior hostess uniform; her sister, Cynthia; Susan March; Vickie Peek; and Andrea Speer and her brother, Bobby, in a junior TWA Captain's uniform.

The mothers (all but one), left to right, are: Mrs. Bernard Dowd; Mrs. John Peek, President of the Clipped Wings Club, an organization of former TWA hostesses; Hostess Tracino Armbruster, TWA Council 8 of the Air Line Stewards and Stewardesses Association; Mrs. Rufus March, and Mrs. Leland Speer.

ACCOA and TWA Reach Agreement

Under the final details of an agreement with TWA, the Air Line Carrier Communication Operators Association, an affiliate of ALPA, gained increased wages and improved working conditions. The pay scale will be retroactive to June 1, 1951.

In Constant Memoriam

"TO FLY WEST, MY FRIEND, IS A FLIGHT
WE ALL MUST TAKE FOR A FINAL CHECK"

Active Duty Air Force

Allen, K. N.—AA
Anderline, F. W.—UAL
Beadles, E. C.—UAL
Berger, H. A.—UAL
Bowen, W. S.—EAL
Caton, C. E.—EAL
Connelly, L. J.—TWA
Darby, J. E.—C&S
Davis, W. E.—Continental
Diltz, H. C.—TWA
Doxey, W. S.—PAA
Duke, A. B.—EAL
Eyre, Lloyd—UAL
Folkers, H. J.—Braniff
Gray, W. B.—EAL
Greenlee, R. L.—UAL
Hazlett, G. W.
Herndon, Thomas—UAL
Howell, P. P.—TWA
Hurren, Aubrey S.
Jackson, Walter—TWA
Keith, W. E.—AA
McDowell, H. C.—UAL
Mills, Arthur—Braniff
Mitchell, H. F.—Colonial
Mostoller, Charles—EAL
Nagel, John—MCA
Nelson, F. S.—WAL
Peterson, Warren—TWA
Quale, R. J.—AA
Roth, P. F.—EAL
Schier, Tip—Delta
Shafer, G. H.—TWA
Skelly, H. J.—AA
Thompson, J. J.—TWA
Treweek, J. M.—AA
Zimmerman, H. J.—TWA

Active Duty—Navy

Carmichael, G. F.—TWA
Jones, J. P.—EAL
Knudsen, Max—TWA
Nelson, R. G.—NEA
Relm, W. L.—NEA
Roscoe, T. M.—TWA
Sparboe, J. H.—NWA
Williams, R. W.—EAL

Active Duty Marine Corps

Kimball, W. F.—TWA
Pielemeir, H. E.—AA

Active—Accidental

Adams, J. B.—UAL
Alcock, G. A.—PAA
Author, W. E.—TWA
Anderson, Lloyd—UAL
Andert, P. A.—UAL
Antonio, S. B.—PCA
Appleby, J. R.—UAL
Bamberger, T. L.—TWA
Banegas, Antonio—TACA
Barrett, J. C., Jr.—PAA
Barron, J. M., Jr.—AA
Bates, C. F.—NWA
Bethel, A. T.—TWA
Bickford, L. A.—Panagra
Bigelow, Edward—UAL
Bliven, L. H.—NWA
Blom, E. W.—UAL
Bogen, W. L.—WAE
Bolmet, F. L.—TWA
Bolton, H. F.—TWA
Bontrager, C. M.—UAL
Borchers, Adrian—PAA
Bowen, J. E.—TWA
Bowen, L. L.—Braniff
Brand, W. J.—AA
Brandon, J. L.—UAL
Brenner, D. F.—NWA
Briggs, F. W.—AA
Briggs, W. P.—UAL
Brigman, R. M.—AA
Brighton, D. E.—UAL
Brown, D. W.—UAL
Brown, F. L.—UAL
Brown, H. B.—NEA
Brunk, P. S.—PAA
Bryan, T. E.—AAA
Bucher, C. L.—CA
Bucklin, Fred—NEA
Bullis, R. L.—PAA
Burks, J. A.—UAL
Burton, R. L.—Inland
Caneta, J. J.—EAL
Carpenter B. A.—AA
Carson, S. A.—PCA
Carter, Harold L.—Robinson
Chamberlain, C. B.—NWA
Charleton, H. T.—AA
Christensen, E. L.—TWA
Christian, B. W.—NWA
Christian, F. J., Jr.—NWA
Clark, F. M.—Continental
Clayton, R. C.—C&S
Cohn, H. G.—WAS
Cole, D. C.—UAL
Coney, W. E.—EAL
Cooper, D. I.—AA
Cope, Alonzo—Marine Airways
Cox, Floyd—Ludington
Crawford, F. J.—PAA
Crew, Carl D.
Dace, F. E.—WAL
Dally, B. H.—TWA
Davidson, W. A.—AA
Davis, A. W.—UAL
Davis, Douglas—EAL
Davis, W. J.—CAP
De Blauw, John, Jr.—LAA
DeCesare, Frank—Panagra
DeCesaro, J. G.—UAL
Dietz, S. G.—EAL
Dietze, R. H.—AA
Disosway, J. S.—Delta
Dixon, Andrew, Jr.—Delta
Dowd, J. H.—MCA
Dryer, D. F.—AA
Dyjak, R. J.—NWA
Eitner, R. G.—AA
Elder, McLemore—AA
Elzsey, R. M.—PAA
Enger, G. E.—NWA
Fey, Howard—UAL
Fidroeff, W. M.—WAL
Fields, G. T.—AA
Fife, M. L.—AA
Fischer, J. F.—NWA
Fletcher, David B.—TWA
Fortner, W. F.—EAL
Foster, L. A.—PAA
Francis, D. B.—AA
Fuller, R. E.—AA
Funkhouser, R. W.—TWA
Galt, J. R.—NWA
Gander, E. J.—NWA
Gardner, G. W.—Panagra
Gay, R. A.—AA
Gray, George—EAL
Gentry, J. N.—PAA
George, Hal—TWA
Gill, D. N.—TWA
Gillette, M. A.—TWA
Golden, Glenn—AA
Gower, V. I.—Delta
Graham, J. H.—MCA
Griesbach, G. C.—UAL
Grover, R. B.—UAL
Haid, A. A.—NWA
Hale, S. H.—EAL
Hallgren, W. A.—AA
Ham, F. M., Jr.—AA
Hammitt, Haldon J.—TWA
Hart, J. F.—NWA
Hart, J. H.—PAA
Haskew, H. M.—EAL
Havlena, G.—PAA
Hazelwood, C. R.—EAL
Hedden, Marion W.
Henson, C. M.—PAA
Hill, G. W.—AA
Holbrook, C. M.—AA
Holloway, G. L.—Delta
Holsenbeck, W. M.—PAA
Holstrom, A. E.—AAA
Houed, Victor—TACA
Huff, J. A.—NWA
Hunt, Edward—AA
Ice, J. R.—Inland
Inman, R. R.—TWA
Inman, W. B.—EAL
Ireland, B. L.—Continental
Jakel, F. C.—PAA
Jameiller, S. E.—Continental
Jameison W. L.—EAL
Jewett, George A.
Johnson R. L.—NWA
Jones, D. B.—NWA
Jones, H. H.—PCA
Jones, L. E.—UAL
Jones, W. H.—UAL
Josselyn, John—PCA
Judd, O. K.—PAA
Kelsey, H. J.—AA
Kelley R. A. Jr.—EAL
Kennedy, V. G.—TWA
Kincannon, T. N.—AA
King, G. B.—PAA
King, J. O.—EAL
Knight, R. S.—EAL
Komdat, A. C.—EAL
Kroeger, J. H.—PAA
Kuser, R. E.—EAL
Lafferty, Robert—C&S
Lamb, C. S.—UAL
LaMontagne, R. L.—AA
Lampman, L. G.—NWA
Lehr, R. B.—AOA
Lewis, H. C.—TWA
Lind, Robert C.—NWA
Livermore, Joe—NWA
Llewellyn, Frank A.—Robinson
Loeffler, E. J.—WAL
Lucas, Al—Wyoming Air Service
Lucas, Verne—Ludington
Lynn, J. B.—C&S
Majors, R. R.—AA
Mallick, F. E.—UAL
Mamer, N. B.—NWA
Marshall, G. V.—AA
Martin, K. R.—NWA
Matthews, Leroy R.—EAL
McAfee, William—PAA
McCauley, J. R.—AA
McCoy, R. S.—PAA
McGinn, W. T.—NWA
McKeirnan, P. S.—TWA
McLaughlin, J. J.—AA
McMickle, Harold—Panagra
McMillen, E. L.—UAL
Merrifield, A. S.—UAL
Miller, B. D.—AA
Miller, G. D.—NWA
Miller, G. J.—WAL
Miner, W. H.—UAL
Mitchell, J. W., Jr.—EAL
Monsen, A. N.—PAA
Montee, Ralph—TWA
Montijo, J. G.—VAT
Morgan, H. R.—TWA
Morgan, H. W.—PAA
Mossman, R. C.—C&S
Neff, Harold—UAL
Nilsen, N. A.—TWA
Noe, E. J.—TWA
Norby, R. B.—NWA
Nordbeck, H. T.—NEA
Obri, N. F.—PAA
O'Brien, W. E.—PCA
Odell, M. T.—AA
Olson, K. S.—NWA
Onsgard, Alden—NWA
Owens, C. P.—WAE
Palau, E. M.—TACA
Paschal, Archie—PAA
Paulis, Raymond—PCA
Pedley, C. F.—AA
Pell, J. N.—PCA
Perry, J. A.—EAL
Person, A. G.—PAA
Petry, R.—NWA
Phillips, W. M. S.—EAL
Pickup, C. V.—UAL
Pitman, C. V.—Avianca
Poe, K. N.—Avianca
Pope, Francis—TWA
Porter, G. H.—AAA
Porter, L. L.—CAP
Potter, N. W.—UAL
Proebstle, Roy—NWA
Pursley, C. H.—Panagra
Radoll, R. W.—UAL
Raley, R. J.—NWA
Ray, George—EAL
Render, R. F.—NWA
Repack, W. T.—PCA
Rhew, J. N.—C&S
Rickman, L. M.—NWA
Riggs, R. S.—AA
Robbins, W. J. B.—AA
Rousch, C. W.—NWA
Rust, F. H.—AA
Salisbury, H. M.—TWA
Saltanis, P. J.—EAL
Sanborn, R. B.—EAL
Sandblom, J. V.—CP
Sandgren, T. E.—UAL
Sands, R. E.—UAL
Sauceda, J. M.—PAA
Schember, R. C.—UAL
Schwartzbach, M. D.—WAL
Scott, P. C.—UAL
Scott P. T. W.—TWA
Scroggins, L. V.—PCA
Shank, E. S.—NWA
Sharpnack, J. W.—UAL
Sheets, D. K.—Panagra
Sheiton, G. E.—TWA
Sherwood, G. C.—WAL
Simmons, Julien B.—EAL
Smith, G. E.—TWA
Smoot, C. H.—Braniff
Snowden, J. P.—TWA
Sprado, George—WAL
Stark, Horace—PCA
Stehle, W. C.—AA
Stickel, J. J.—NWA
Stiller, H. A.—AA
Stoner, S. E.—AA
Stroud, J. E.—AA
Stultz, H. L.—TWA
Sumrall, M. B.—PAA
Supple, R. E.—Panagra
Swallow, E. K.—UAL
Swander, L. D.—NAL
Tarrant, H. R.—UAL
Taylor, V. W.—NWA
Terletzky, Leo—PAA
Thomas, L. E.—EAL
Thompson, A. R.—UAL
Toler, P. K.—MCA
Tower, H. G.—UAL
Turbyne, Robert—Panagra
Underwood, S. L.—AA
Vance, C. K.—UAL
VanCleef, J. G.—NWA
Vanderbusch, R. E.—NWA
Venderley, P. W.—AA
Wagar, G. K.—UAL
Waldron, Joe—AA
Walker, M. A.—PAA
Wallace, C. W.—TWA
Wallace, E. G.—PAA
Warner, George—UAL
Wasil, N. A.—TWA
Watkins, E. C.—AA
Weatherdon, Edwin—AA
Webb, Walton B.—TWA
Weber, R. J.—WAL
Weeks, R. E.—TWA
West, F. W.—NWA
Westerfield, W. R.—AOA
Whidden, R. G.—NEA
Wieselmayer, Otto—PAA
Williams, W. C.—TWA
Williamson, P. B.—EAL
Willingham, K. V.—EAL
Wilson, W. C.—AA
Winkler, F. X.—TWA
Witt, Porter—NWA
Wolf, J. F.—WAE
Wolfe, Verne F.—NWA
Worthen, J. A.—WW
Wright, J. S.—TWA
Young, G. E.—UAL
Zeier, C. F.—C&S
Zundel, W. R.—AA

Active—Natural

Andrews, Clyde M.—NAL
Bedell, Charles W.—PAA
Blomgren, L. L.—AA
Boyer, C. M., Jr.—PAA
Briggs, Edwin—CAP
Carl, A. C.—PCA
Chiappino, L. J.—TWA
Cochran, R. M.—UAL
Colton, Ray—UAL
Couch, L. H., Jr.—PAA
Creekmore, R. N.—PCA
Currier, C. L.—TWA
Dunn, G. B.—NWA
Durrance, J. C.—EAL
Fife, J. A.—CA
Flinn, Elroy J.—PAA
Fogleman, A. V.—CAP
Gambee, H. T.—TWA
Griffin, L. B.—Panagra
Harris, D. T.—AA
Hedenquist, W. A.—TWA
Helm, Thomas O.—C&S
Hohag, R. J.—NWA
Hubbard, D. L.—NWA
Jamieson, L. S.—EAL
Jaster, F. B.—EAL
Jenkins, J. G.—AA
Johannpeter, J. W.—AA
Johnson, H. A.—TWA
Johnson, P. E.—UAL
Kaufman, R. A.—AA
Keadle, F. E.—Varney
Kite, Don N.—AA
Leist, G. D.—PCA
Maguire, R.C.—AA
McClemens, K. J.—NEA
McConaughey, I. M.—AA
McCracken, H. Wayne—AA
Parker, A. N.—TWA
Peck, R. E.—NAL
Peterson, J. M.—NWA
Phelps, H. T.—PAA
Pricer, J. S.—AA
Rhoades, G. L.—PAA
Sheparo, E. W.—PAA
Sleup, W. A.—CAP
Swanson, Axel—AA
Tuntland, P. E.—WAL
Wagner, M. J.—PCA
Waidner, Claude F.—EAL
Wallace, J. L.—UAL
Winston, W. A.—PAA
Wittenberg, F. E.—UAL
Wynne, H. F.—WAL

Inactive

Allen, J. A.
Anderson, W. D.
Ashford, Ted
Austin, Amos A.
Barr, Julius
Beindorf, C. R.
Bowhan, Francis D
Bowne, F. S.—PAA
Bowie, Arthur J.
Brill, G. W.
Brown, W. C.
Burford, D. W.
Caldwell, G. Q.
Campbell, M. H.
Cushing, G. R.
Doty, D. E.
Downs, Lloyd
Drayton, C. M.
Dunn, S. M.
Erickson, F. M.
Evans, R. E.
Fisher, A. O. F.
Gilbert, P. L.
Griebel, G. S.
Grund, W. F.
Harlow, L. R.
Hart, Jesse E.
Hays, G. L.
Hines, K. F.
Holland, Glenn A.
Hulsman, H. W.
Hunter, L. W.
Jackson, L. A.
Jacob, S. T.
Jennings, Spencer
Jewell, Robert H.
Judy, H. R.
Kerwin, J. J.
Knight, J. H.
Kraft, H. G.
Latz, W. G.
Leak, E. L.
Little, R. J.
Lorber, C. A.
Lowe, E. L.
Maas, E. A.
McConnell, W. M.
McMakin, R. A.
Minor, R. T.
Mitchell, R. L.
Moser, J. M.
Murphy, J. W.
Nicholson, Raymond F.
Northrop, Cecil P.
Noyes, D. L.
Ormsbee, F. E.
Palmer, D. G.
Rhiner, L. H.
Riddle, G. L.
Rose, J. A.
Rosenberger, W. S.
Roulstone, J. J.
Rousch, U. E.
Schmitz, George
Shelton, B. M.
Solomon, W. H.
Splittstoesser, E. A.
Squire, J. P. L.
Stark, H. C.
Steen, J. L.
Sterling, C. M.
Straith, W. P. A.
Thompson, C. A.
Tinkle, H. A.
Van Alstyne, Hugh, Jr.
Vaughan, M. G.
Veblen, E. H.
Walbridge, D. C.
Warner, Roy
Welsh, S. D.—TWA
Wheaton, H. H.
Whittemore, F. W.
Willey, S. L.
Wixon, Jack

Waiting List

Brock, W. S.
Clark, W. H.
Kiser, Daniel
Langmack, D. F.

Honorary

Brisbane, Arthur
Greene, Dr. Ralph
Hearst, Wm. Randolph
Kelly, Hon. Clyde
LaGuardia, Florello H.
Rogers, Will
Wright, Orville

ALPA Employees in Line of Duty

Munch, F. O.